

Fig. 1

promoter and exon 1

ACTGCGGAGATGAGGGTCTAGAAGGTGGTGGCGGGGCAT  
 GTGGACCGTTGTAAGGGCTCTGGGG**TTCTGGGTGGGCT**  
 GGCGAAGTCCCTACTCACAGTGACCAACCATGATGATGGT  
 CCCGATAGAGGAGGAGAGGGAGGAGGAGGAAAAGGAAG  
 GGTGAGGGGCTCAGAGGGGAGAGCTGGGAGGAGGGGAGA  
 CATAGGTGGGGGAAGGGGTAGGAGAAAGGGGAAGGGAGC  
 AAGAGGGTGAGGGGCACCAGGCCCCATAGACGTTTTGGC  
 TCAGCGGCCACGAGG**CTTCATCAGCTCCCGCCGAAAAC**  
 GGAAGCGAGGCCGTGGGGGCAGCGGCAGCATGGCGGGGC  
 TTGTCTTGCGGCCATGGCCCCGCCCCCTGCCCGTCCGA  
 TCAGCGCCCCGCCCGTCCCCGCCCCGACCCCGCCCCGG  
 GCCCGCTCAGGCCCC**CGCCCTGCCGCCGGAATCCTGAAG**  
 CCCAAGGCTGCCCGGGGGCGGTCCGGCGGCGCCGGCGAT  
 GGGG**ATAAAA**CCACTGGCCACCTGCCGGGCTGCTCC

TGCGTGCGCTGCCGTCCCGGATCCACCGTGCCTCTGCGG  
CCTGCGTGCCCGGAGTCCCCGCCTGTGTGCTCTGTGCG  
CCGTCCCCGTCTCCTGCCAGGCGCGGAGCCCTGCGAGCC  
GCGGGTGGGCCCCAGGCGCGCAG**ACATGGGCTGCTCCGC**  
**CAAAGCGCGCTGGGCTGCCGGGGCGCTGGGCGTCGCGGG**  
GCTACTGTGCGCTGTGCTGGGCGCTGTCATGATCGTGAT  
GGTGCCGTCGCTCATCAAGCAGCAGGTCCTTAAG

**A**

GTGGGTGAGGGAGACCCAGGGGGTCCGCGCACGGACCC  
 GGGCTGTTGGGCGCTGGGCGCCGGGAGGACCCGCGCGTT  
 GCGGTGGGTGGGCGACCGCAGCGGAATCGGCGCCCGGGC  
 CTGGCGCCCGAGAACACGAGGGAGGCCAGGCGCTTCGGG  
 AGGGGCTGCTGCCCGCCTCCCCACCACCCTCACC

Fig. 2A

## exon 2

AGCCTCATGTGCGAAGGGCTTTCCCACCACCTCCTATCC  
 CAAGCTCCCGCCGAGGAGCCCCCTTCCCTGGCCGGGCTCG  
 GGCAGCTGTTCCGGAGCCTTGTGGTGGGGCGT**GGGGCC**  
**CTCATCACTCTCCTCA**CAAGCGTACTTGTCCCTTCCC  
 CTGCAG

AACGTGCGCATCGACCCCAGTAGCCTGTCCTTCAACATG  
TGGAAGGAGATCCCTATCCCCCTTCTATCTCTCCGTCTAC  
TTCTTTGACGTCATGAACCCCAGCGAGATCCTGAAGGGC  
GAGAAGCCGCAGGTGCGGGAGCGCGGGCCCTACGTGTAC  
AG

GTGAGGCTGTGTCCACGTGATGGTGGACGGGCCGGCTGA  
 CGCTGGGCATGGGACGGGTCTCAN**AGTGGACGGGATG**  
**GGGAGGCTGCT**GA CTGACCCCCAAACATTGTTCCGGAA  
 GCACGCAACTCATAGTCGGGGTAAGTGCTACTCCCAAAA  
 AAGTTTGCGT

## exon 3

CATGTCCTGCAGTGGGCAGGCAGCGGGAGGGACAGACTT  
 GGCGAAGGGGCCGAGCTCAGCTTTGGCTGTGGGGCCGGA  
 GGTGTGCACAGACGTCCAGGGCCCCTGGTTCCCAGGCAG  
 GC**ATTGCAGGCGAGTAGA**AGGGAAACGTCCCATGCAG  
 CGGGGCGGGGCGTCTGACCCACTGGCTTCCCCCACAG

GGAGTTCAGGCACAAAAGCAACATCACCTTCAACAACAA  
CGACACCGTGTCTTTCCTcGAGTACCGCACCTTCCAGTT  
CCAGCCCTCCAAGTCCCACGGCTCGGAGAGCGACTACAT  
**G**TCATGCCCAACATCCTGGTCTTG

A

GTGAGGCTGCCCTGTGGCCACGCCGCCTCGCACCCCTGA  
 CCTCGTCCCC**TGTCTCTCCTCCCGCCT**GCCCCCTTGTG  
 CAGAGAGCAGTCCCTGAGGTGGTCGGAGCGTGGGGACTC  
 ACGCCTGGTGGGTGGCTTTCGGCCCTGTGCTGTCTCCAC  
 CACCCCA

Fig. 2B

GGTGGTTCTGGTGTCCCAGATGCCCCACGTGGCCACTCC  
AGGGGCCTCCTGCACCCCAGCATTTCCCTTCATGGGCT  
**CTTTGCTGTGAGGC**CCAGCTGGGGCCAAGGGAGGATG  
GGCCAGCCACGTCCAGCCTCTGACACTAGTGTCCCTTCG  
CCTTGCAG

GTACGTGTGGCCTGGTGAGAAGCCAAAGATTTCAGGCCTG  
TGTCCCTGT**CTTCCCCCTCACACAGCCTGG**ACACTGGTC  
ACCAGCTTGCTTTGTAGCTGGCTGGGGATCTAGTGGCTG  
TGGGTTGTAAGTGACTGAGAACCTGACTCAAACCGGCTT  
GAGTGAAA

CCTCTCGGTCCCCAGACACTGGGCATTTGGCAGTGAACC  
AGATGCTGGGGGCCCTGTCCTTCTGGTGGAGGGGGAGGA  
GGGCTCAG**CCCAGAATGTT**CAGACCAGGCCGGCTCAA  
TGGCAGGCCTAAGCCTTACGATGCTGTTCCCTGCTGTGT  
CTGTAG

GTGAGGGGCGAGAGGCGAGGGCCCCTGTCGCCAGGGAGA  
GGGGAGGGTGGGCCCGGCCATGGCTGCTCGGGAGTGGCA  
GGGACCAGAGAGCTCCTTCTTCCTTTGTCGTGAAGAG  
GGTGCTGGGAGGATGAACACTCTTGAAGTTGGAGGAGGG  
ATTTTA

**Fig. 2C**

## exon 6

TCTCTGTGTGTCTACATAGCCTGCCCTCTTCCCACCGTG  
 CCAGTATTGGGAATTGAGTGGCCGTGCGTGCACCAGGGT  
 GAGTTAGGTGTGCAG**CACCTGAGAGGGCTTATTA**AGG  
 GGCCTTGGCCCTACTGAGGGGTCTAGTCTGGATGCTTCC  
 CCCAG

GTTGACTTCTGGCATTCCGATCAGTGCAACATGATCAAT  
GGAACCTTCTGGGCAAATGTGGCCGCCCTTCATGACTCCT  
GAGTCCTCGCTGGAGTTCTACAGCCCGGAGGCCTGCCG

GTAATCACTGGGACTCGGGGCCTCCTGGGTTTCCTGGGT  
 AGCTCATGGCCAAATTCTGTGGTGTGGCTGT**GCACTT**  
**GGAAAGCATTTT**GACTCATCGTGGATTGACTCAGTAG  
 CCCTTGGCACCAGCTTGAATTCTCTTTGGTCACACCACC  
 AAAAGC

## exon 7

GGAGGTCGCTGCAGCTCCGCGGGTGAGAGATGGGGGCGG  
 TTTGGACCCGGGAGGTGGTAGCGCCCGTGGGGAGAAGTG  
 GCTGGATCTGGGCAGCCTTTGGCAGGGCCTGGCTCTGG**C**  
**CGCCGGGTCTGGGTGTCC**CCTCTCATCCTGTCTGTCC  
 CCTGCAG

ATCCATGAAGCTAATGTACAAGGAGTCAGGGGTGTTTGA  
AGGCATCCCCACCTATCGCTTCGTGGCTCCCAAACCT  
GTTTGCCAACGGGTCCATCTACCCACCCAACGAAGGCTT  
CTGCCCCGTGCCTGGAGTCTGGAATTCAGAACGTCAGCAC  
CTGCAGGTTCA

GTACGTGCCGTCCCCTGTTCTGGGATNGCCGGAGGGTGT  
 TAGGTNTNGGGCACCTNANGGTTTATCTGCCCAATGCTG  
**TCTGCTTAATCTCTGGCCTCTGTACTCTTGATAACC**  
 CATTAAGCCAAAAATATGATGCCTCTGGGACGATATCTG

Fig. 2D

## exon 8

TGGGGCTTTT**TACAGAATGGAGGA**AGGGATCCTCTCT  
 GTCGGGTATTATGGTCATCGCCACGGGGGTGCCGTGCAG  
 ACCACAGCTCTGTGCAGACTTCCGGAGTGGCAGGACGTG  
 CCAATATACTGTCGTTGTATGATGTCCCCTCCCTGCCCT  
 TGTTGTAG

GTGCCCCCTTGTTTCTCTCCCATCCTCACTTCCTCAACG  
CCGACCCGGTTCTGGCAGAAGCGGTGACTGGCCTGCACC  
CTAACCAGGAGGCACACTCCTTGTTCCTGGACATCCACC  
CG

T

GTGAGCCCCTGCCATCCTCTGTGGGGGGTGGGTGATTCC  
 TGGTTGGAGCACACCTGGCTGCCTCCTCTCTCCCCAG  
 GCAGAGAGCTGCTGTGGGCTGGGGTGGTGGGAAGCCTGG  
 CTTCTAGAATCTCGAGCCACCAAAGTTCCTTACT

## exon 9

CCCCAGCCTGTGGCTTGTTT**TAGGTAAGATA**CAAGCAAG  
 CTCCACTGGGCAGTTAGCTGGGACGCCACCCCTCTTGAC  
 TGGGACCAGGGAAA**AGAGGTTGACTGTGTCCCTGGA**  
**GCTT**GGGGGTGGCCAGTCTCCTCACTGTGTTTGTGCGG  
 CAG

GTCACGGGAATCCCCATGAACTGCTCTGTGAACTGCAG  
CTGAGCCTCTACATGAAATCTGTGCGCAGGCATTGG

GTGAGTGGGGACTGGGAACTGGGGCTGCATTGCTCATTG  
 AGAGATTANGT**GCTCAGTGCTCCAGTGTTCC**CAGAC  
 TCCCCTGACATACCCAGGAAACAGGGCATGGGGAAGGG  
 AGAGGGTCCTATTGGGGGTGGAATCCAGTCCCTGCTGAT  
 CTTCTC

Fig. 2E

09779452.100101

## exon 10

ATGGCTCCTAAAGTGTTTCAGCTCATTGTTTATATTTGG  
**TGGTGAGGGTTTAGTGTG**TGCAAAATTATACTAAACC  
 TGTTTAGATGTTGTATTCAAGCAGAATTAGATCAAGTTT  
 GGGTGTAAGACTTTGTTCCAACACCTATGTCTTGCTTAT  
 TTCCAG

ACAAACTGGGAAGATTGAGCCTGTGGTCCTGCCGCTGCT  
CTGGTTTGACAGAG

GTAAGGGTGCGTTGGGCACAGCGTCGGGGGCTTTTGTTA  
 ATAGCCAATGTGGGCATTT**GAGGCAGGAGGCGGGGGG**  
**AGCACCTTGTAGAAAGGGAGAGGGCTGAGCCAGGGTAAC**  
 CGGACTGTTACATGGACCAGCGTATCATACTTCACCC  
 TGTC

## exon 11

CCTGGAGGGAGGAGGTCCCTGGCAGGCTCCAACACATGC  
 TTTAGCCGGGAAGCTTGAGGTGGGGAAAAGCTGAGGCGG  
 GCACAGAGG**AAGGTGTTGGGTGGCATCTG**CGCTGTAG  
 CCCGCAGC**CT**GC GGCCCCAGCTCATGTGTTTGTCATTCT **G**  
 GTCTCCTCAG

AGCGGGGCCATGGAGGGGGAGACTCTTCACACATTCTAC  
ACTCAGCTGGTGTTGATGCCCAAGGTGATGCACTATGCC  
CAGTACGTCCTCCTGGCGCTGGGCTGCGTCCTGCTGCTG  
GTCCCTGTCATCTGCCAAATCCGGAGCCAA

GTAGGTGCTGGCCAGAGGGCAGCCCGGGCTGACAGCCAT  
 TCGCTTGCCCTGCTGGGGGAAAGGGGCCTCAGATCGGACC  
 CTCT**GGCCAACCGCAGCCTGGAGCCC**ACCTCCAGCAG  
 CAGTCCTGCGTCTCTGCCGGAGTGGGAGCGGTCACTGCT  
 GGGGG

Fig. 2F

## exon 12

CCCCACATCTCAGCCACCTGCAATCGTTGAGGGTTGTTG  
GACTCTAAACTTATGTGCCTTTCCTGTTTCCTCTTTGCC  
TTTTGCAAA**TTGAAGAACCGTGTA**AAACCATTTTTAT  
GTGGCTTCAACGTCAACTATAAATTAGCTTGGTTATCTT  
CTAG

GAGAAATGCTATTTATTTTGGAGTAGTAGTAAAAAGGGC  
TCAAAGGATAAGGAGGCCATTCAGGCCTATTCTGAATCC  
CTGATGACATCAGCTCCCAAGGGCTCTGTGCTGCAGGAA  
GCAAAACTGTAG

GTGGGTACCAGGTAATGCCGTGCGCCTCCCCGCCCCCTC  
CCATATCAAGTAGAATGCTGGCGGCTTAAACATTTGGG  
GTCCTGCT**TCATTCCTTCAGCCTCA**ACTTCACCTGGAG  
TGTCTACAGACTGAAGATGCATATTTGTGTATTTTGCTT  
TTGGAGAAA

Fig. 2G

0979152-100101



[illegible]

Fig. 3A-1

F M N N R T V G E I M W G Y K D P L V N L 190  
 TTC ATG AAC CGC ACT GTG GGT GAG ATC ATG TGG GGC TAC AAG GAC CCC CTT GTG AAT CTC 688  
 I N K Y F P G M F P F K D K F G L F A E 210  
 ATC AAC AAG TAC TTT CCA GGC ATG TTC CCC TTC AAG GAC AAG TTC GGA TTA TTT GCT GAG 748  
 L N N S D S G L F T V F T G V Q N I S R 230  
 CTC AAC AAC TCC GAC TCT GGC GGC CTC TTC ACG GTG TTC ACG GGG GTC CAG AAC ATC AGC AGG 808  
 I H L V D K W N G L S K V D F W H S D Q 250  
 ATC CAC CTC GTG GAC AAG TGG AAC GGC CTG AGC AAG GTT GAC TTC TGG CAT TCC GAT CAG 868  
 C N M I N G T S G Q M W P P F M T P E S 270  
 TGC AAC ATG ATC AAT GGA ACT TCT GGC CAA ATG TGG CCG CCC TTC ATG ACT CCT GAG TCC 928  
 S L E F Y S P E A C R S M K L M Y K E S 290  
 TCG CTG GAG TTC TAC AGC CCG GAG GCC TGC CGA TCC ATG AAG CTA ATG TAC AAG GAG TCA 988  
 G V F E G I P T Y R F V A P K T L F A N 310  
 GGG GTG TTT GAA GGC ATC CCC ACC TAT CGC TTC GTG GCT CCC AAA ACC CTG TTT GOC AAC 1048  
 G S I Y P P N E G F C P C L E S G I Q N 330  
 GGG TCC ATC TAC CCA CCC AAC GAA GGC TTC TGC CCG TGC CTG GAG TCT GGA ATT CAG AAC 1108  
 V S T C R F S A P L F L S H P H F L N A 350  
 GTC AGC ACC TGC AGG TTC AGT GCC CCC TTG TTT CTC TCC CAT CCT CAC TTC CTC AAC GGC 1168  
 D P V L A E A V T G L H P N Q E A H S L 370  
 GAC CCG GTT CTG GCA GAA GOG GTG ACT OOC CTG CAC OCT AAC CAG GAG GCA CAC TCC TTG 12281

Fig. 3A-2

F L D I H P V T G I P M N C S V K L Q L 390  
 TTC CTG GAC ATC CAC CCG GTC ACG GGA ATC CCC ATG AAC TGC TCT GTG AAA CTG CAG CTG 1288  
 S L Y M K S V A G I G Q T G K I E P V 410  
 AGC CTC TAC ATG AAA TCT GTC GCA GGC ATT GGA CAA ACT GGG AAG ATT GAG CCT GTG GTC 1348  
 L P L L W P A E S G A M E G E T L M T F 430  
 CTG CCG CTG CTC TGG TTT GCA GAG AGC GGG GCC ATG GAG GGG GAG ACT CTT CAC ACA TTC 1408  
 Y T Q L V L M P K V M H Y A Q Y V L L A 450  
 TAC ACT CAG CTG GTG TTG ATG CCC AAG GTG ATG CAC TAT GCC TAC TGC CTC CTG GCG 1468  
 L G C V L L L V P V I C Q I R S Q E K C 470  
 CTG GGC TGC GTC CTG CTG GTC CCT GTC ATC TGC CAA ATC CGG AGC CAA GAG AAA TGC 1528  
 Y L F W S S K K G G G C A A G GGC TCA AAG GAT AAG GAG GCC ATT CAG GCC TAT 1588  
 TAT TTA TTT TGG AGT AGT AAA AAG GGC TCA AAG GGC TCT GTG CTG CAG GAA GCA AAA CTG TAG 1648  
 S E S L M T S A P K G S V L Q E A K L \* 510  
 TCT GAA TCC CTG ATG ACA TCA GCT CCC AAG GGC TCT GTG CTG CAG GAA GCA AAA CTG TAG 1648  
 GCTCCTGAGGACACCGTGAGCCAGCCAGCCCTGGCCGTGGCCCTGACCGGCCCCCAGCCCCCTACACCCGCTTCTCC 1727  
 CGGACTCTCCAGCAGACAGCCCCCAGCCCCACAGCCTGAGCCTCCAGCTGCCATGTCCCTGTGTCACACCTGCACA 1806  
 CACGCCCTGGCACACATACACATGCGTGCAGGCTTGTGCAGACACTCAGGGATGGAGCTGCTGCTGAAGGACTTGT 1885

Fig. 3B-1

1964  
 AGGAGAGGCTCGTCAACCACTGTCTGTGAACCTTCTCTCCACGTGGCCACAGGCTGACCACAGGGGCTGTGGG  
 2043  
 TCCCTGGTCCCCCTTCCCTCGGTGAGCCTGGCCCTGTCCCGTTACGCCGTGGGCCACAGGCTTCTCCCTCCAACGTGAA  
 2122  
 ACACTGCAGTCCCGGTGTGGTGGCTCCCCATGCAGGACGGGCCAGGCTGGGAGTGCCGCCCTTCCCTGTGCCAAATTCAGT  
 2201  
 GGGACTCAGTGCCCAAGGCCCTGGCCACGAGCTTTGGCCCTTGGTCTACCTGCCAGGCCAGGCAAGCGCCCTTTACACAG  
 2280  
 GCCTCGGAAAAACAATGGAGTGAGCACAAAGATGCCCTGTGCAGCTGCCCGAGGGTCTCCGCCCAACCCCGCCGACTTTG  
 2359  
 ATCCCCCGAAGTCTTACAGGCACTCCATCGGGTTGTCTGGCGCCCTTTCTCCAGCCCTAAACTGACATCATCCTAT  
 2438  
 GGAAGTGGCCGCACTTCTTGGCCGAAAGTGGCCGCAAGCTGTGCCCGAGCTGCCCGCCACCCCTCACAGGGTCCCT  
 2517  
 CAGATTATAGGTGCCCAAGCTGAGGTGAAGGCCCTGGGGCCCTGCCCTTCCGGCCGCTCCTGGACCCCTGGGGCAACC  
 2596  
 TGTGACCCCTTTCTACTGGAAATAGAAATGAGTTTATCATCTTTGAAAAATAATTCACTCTTGAAGTAATAACGTTTA  
 2630  
 AAAAAATGGGAAAAAATAAAAAA

Fig. 3B-2

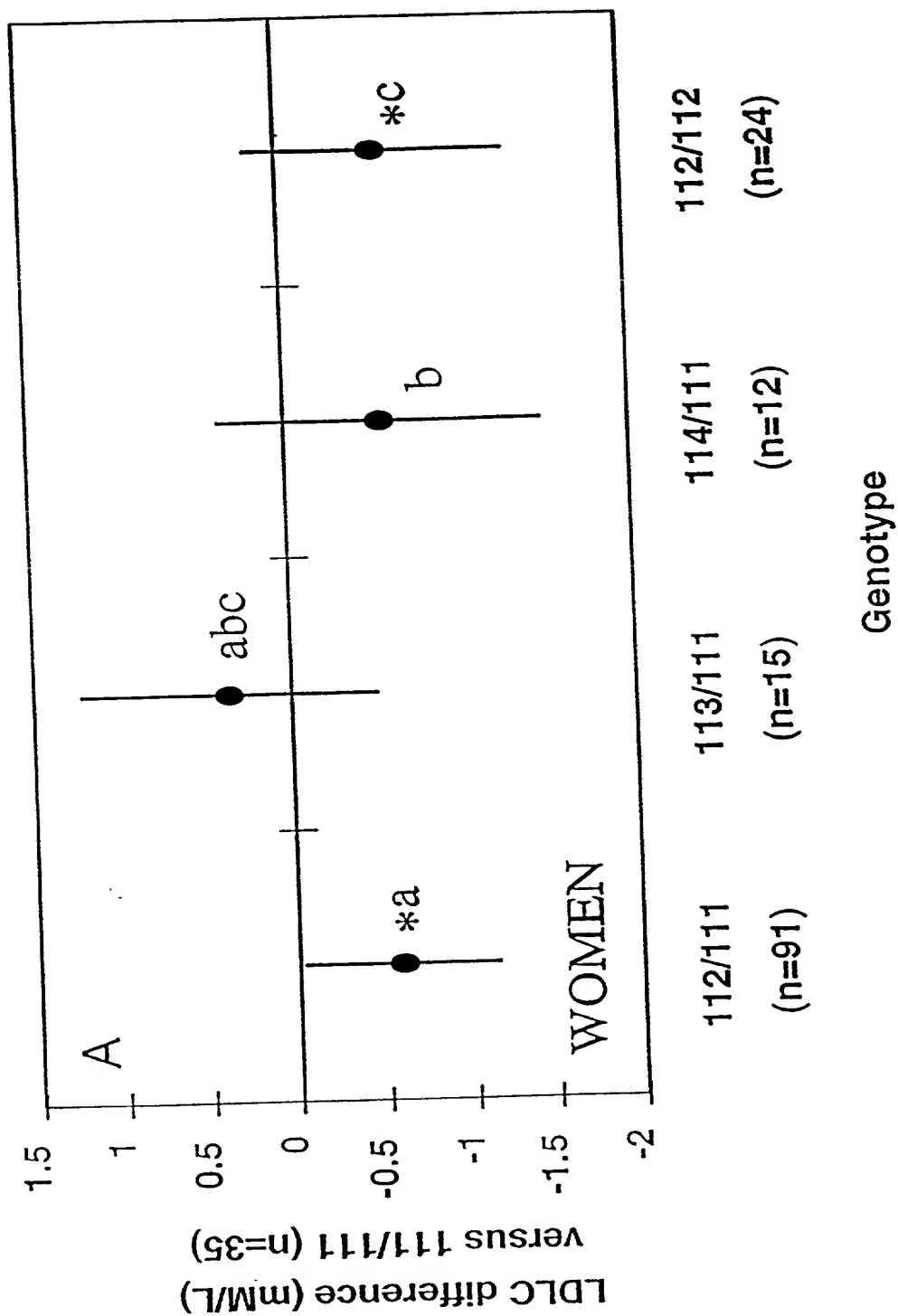


Fig. 4

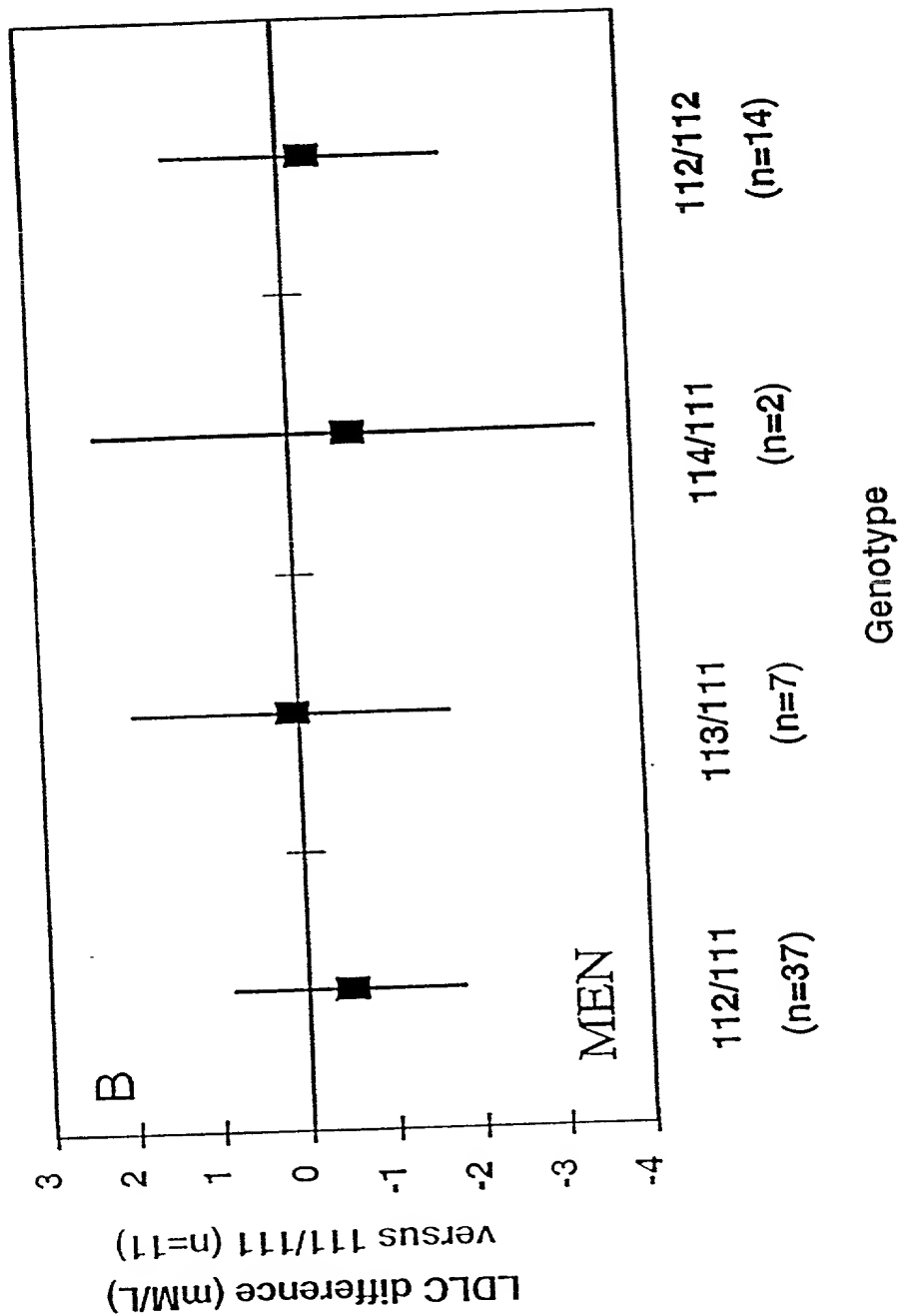


Fig. 5

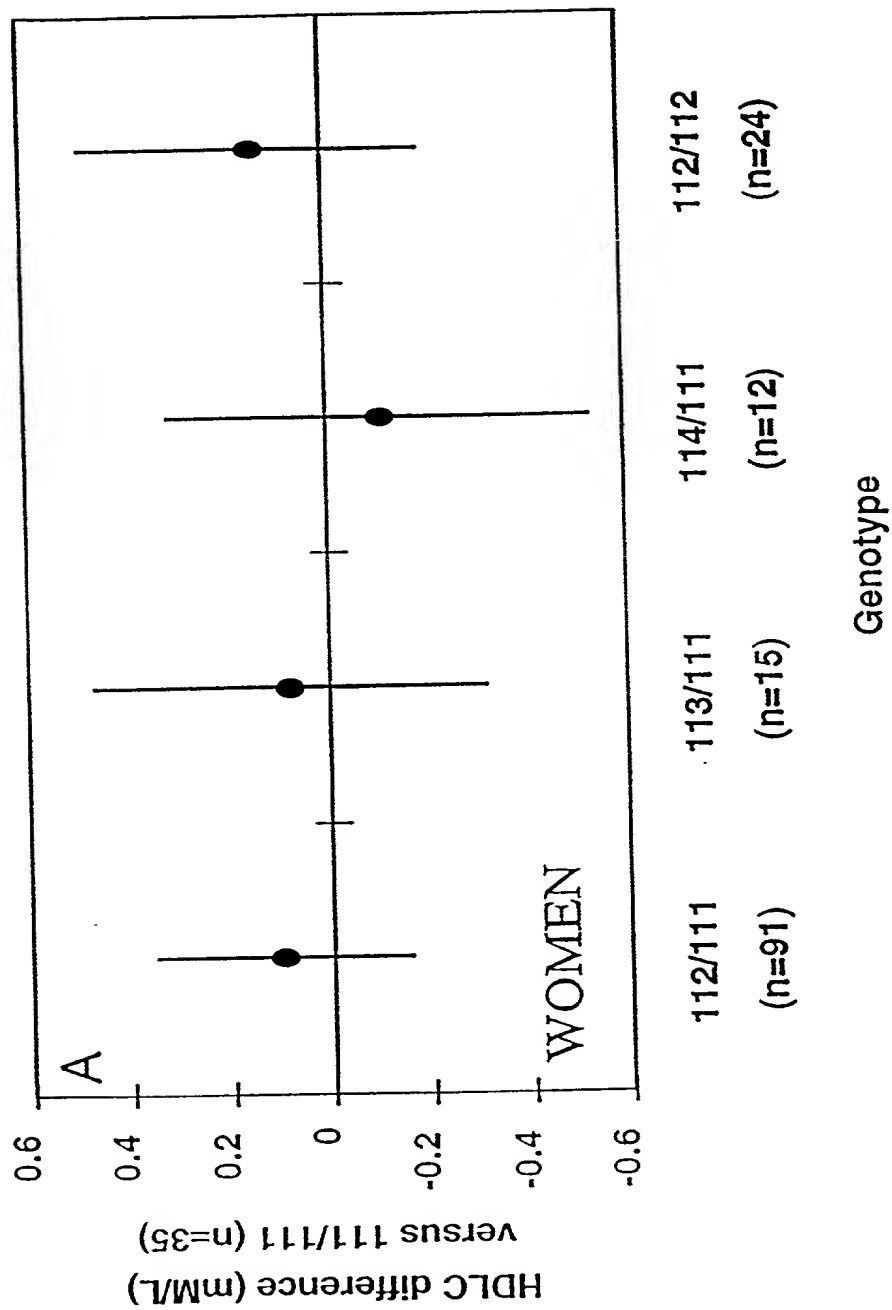


Fig. 6

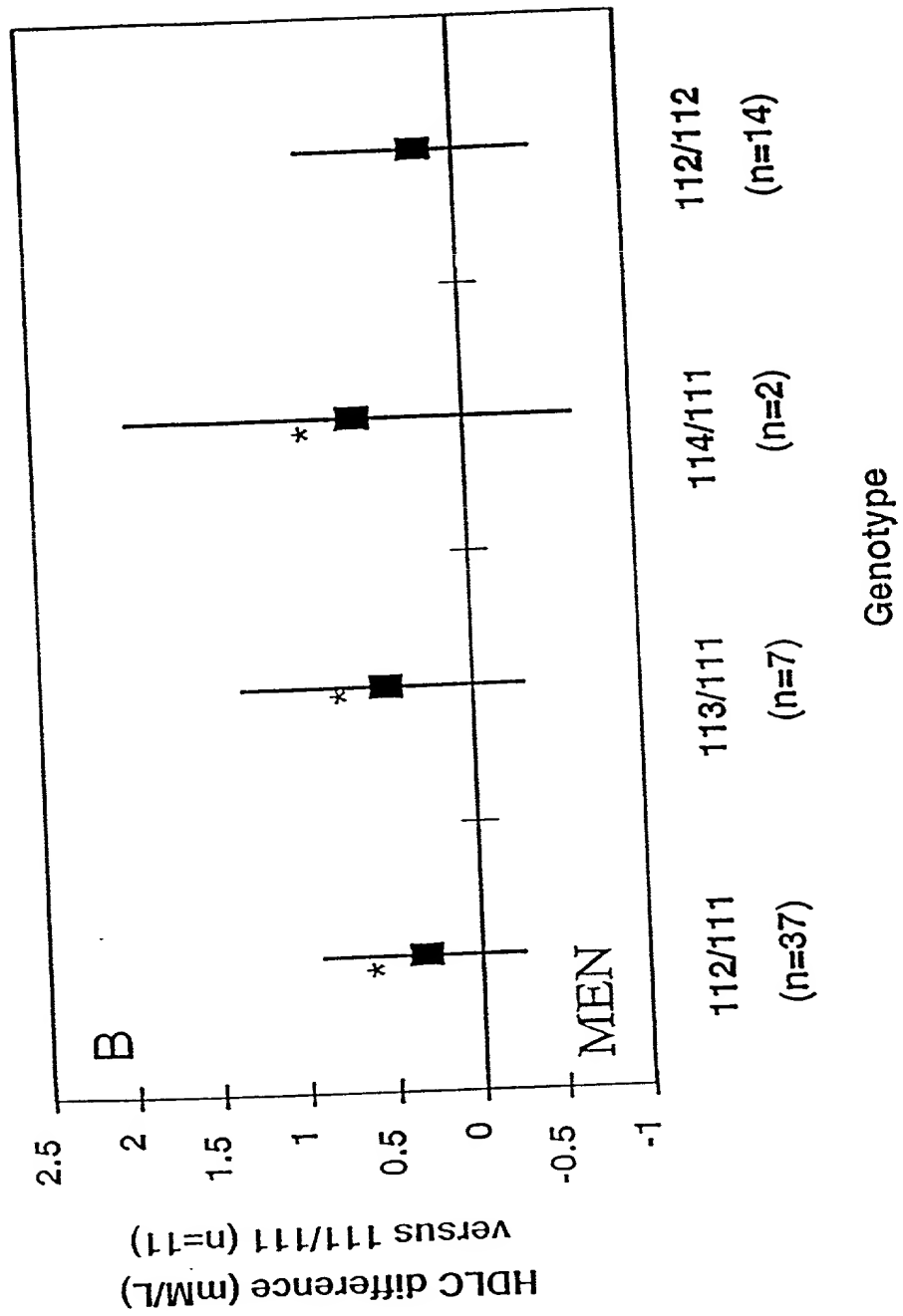


Fig. 7



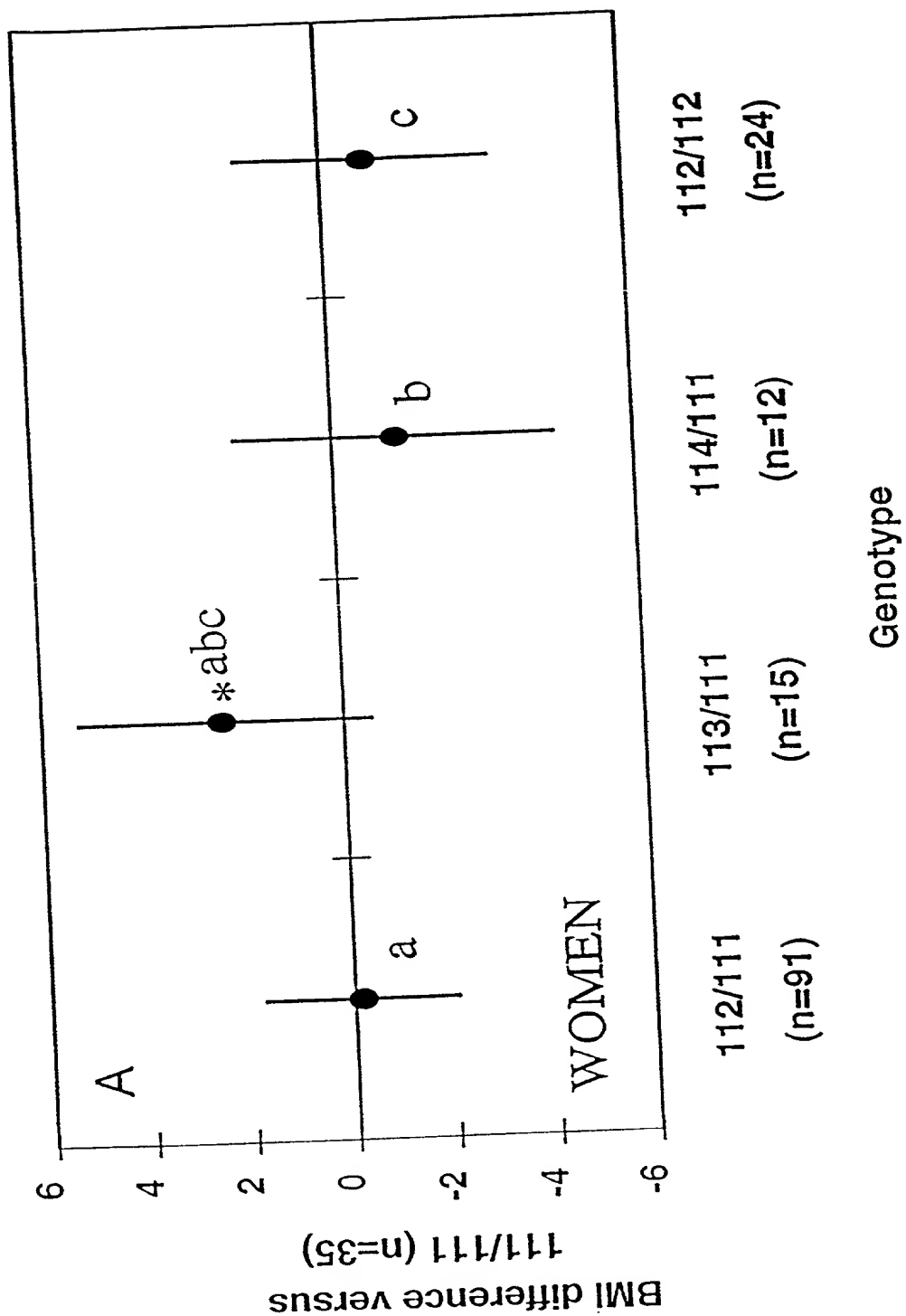


Fig. 8

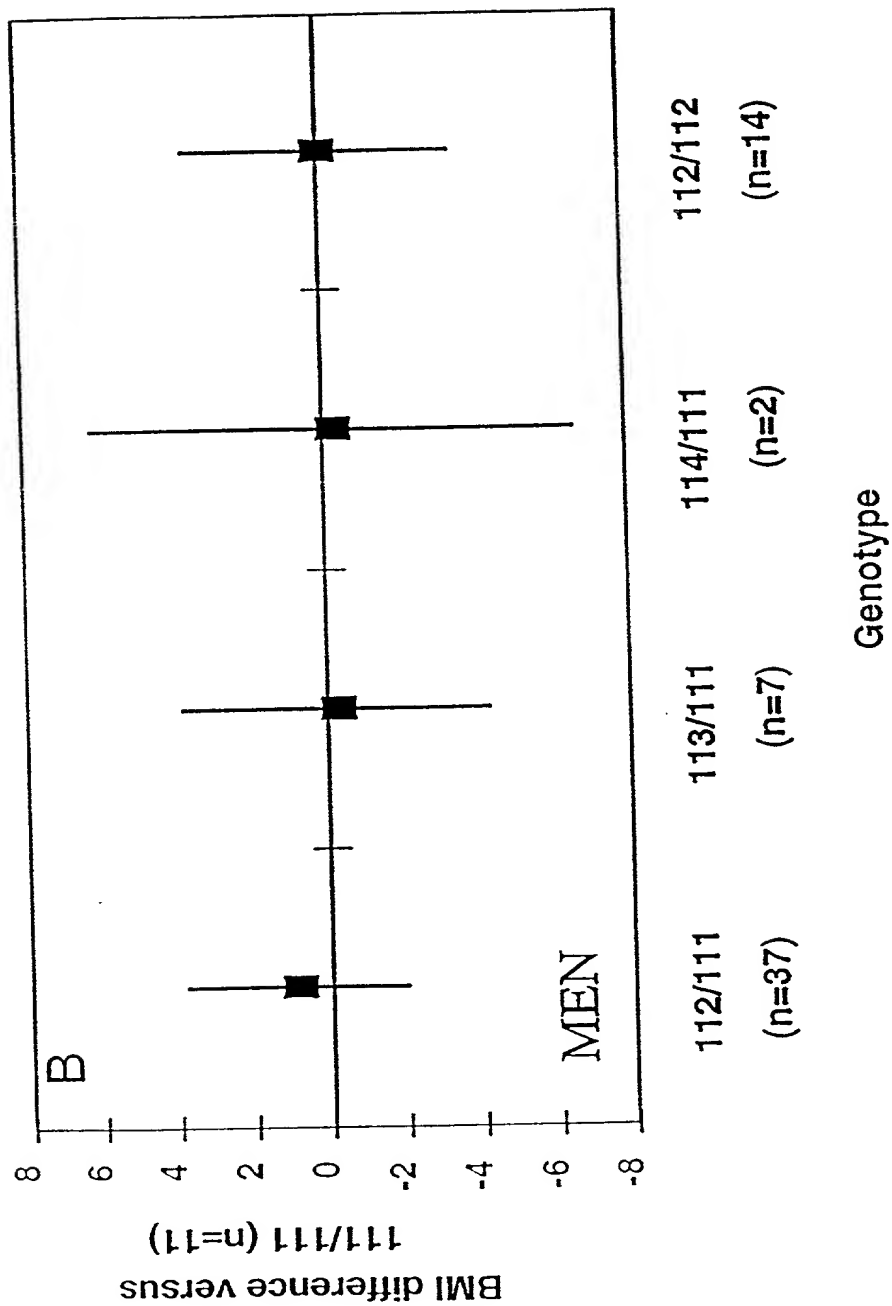


Fig. 9